Zoonotic Disease & Adverse Event Monthly Surveillance Summary

Data compiled from the Wyoming Regional Veterinary Public Health Coordinator (WRVPHC) Program, and mandatory disease reporting

April 2011

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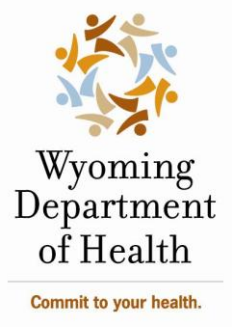

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Background

The Wyoming Regional Veterinary Public Health Coordinators (WRVPHC) program is a passive surveillance system that was implemented in the later part of 2007. Data shown in this summary report is a combination of information collected through both the WRVPHC program as well as that received through mandatory disease reporting to the Wyoming Department of Health from physicians and laboratories. This data has several limitations that should be considered in the analysis, interpretation, and reporting. First, a "report" is considered to be single event that was observed, and reported on a single day by a single person or agency. Therefore, a report does not reflect the actual number of, for example, confirmed Campylobacteriosis cases, or the true number of humans bitten by a single animal. Additionally, the month a report was received does not always reflect the actual date an incident or event occurred. Every effort possible was made to check for duplication in reporting; therefore, one can assume the total number of reports received is the true number that actually occurred during the specified month. Second, both of these surveillance systems are passive. They are dependent on clinicians/veterinarians considering the diagnosis, obtaining appropriate testing, and reporting positive results. Furthermore, the majority of reports gathered are never actually confirmed by a laboratory or updated with correct diagnoses (when initially undetermined). Diagnosis and reporting are incomplete, and the incidence of these diseases/conditions is likely underestimated. Third, there is continuous active recruitment for veterinarians, clinicians, law enforcement officials, animal control agencies, and others to report zoonotic diseases and adverse health events that could be of public health importance. Thus, increases in the number of reports of specific diseases/conditions shown in this report are more likely to be affected by program awareness of reporting entities. Fourth, data shown in this summary are considered provisional and are provided to help track zoonotic diseases from both the animal and human aspects. However, these data may change substantially before they are finalized in a year-end summary report.

UPDATE

This year you will notice three differences from previous monthly and yearly summary reports.

1. The graphs have been altered to now show a "Previous 4yr Mean." This is the average number of cases or incidents reported over the previous four years, from 2007 through 2010.
2. Only those diseases, conditions or incidents for which we received a report(s) during the month are shown in each monthly summary. Therefore, diseases for which we have received reports in a previous month but not in the current month are not shown.
3. The graphs under animal-to-human bite or potential rabies exposure incidents are based on the actual date of incident (or the month it was reported if no event date was provided). Unlike the graphs, the animal-to-human bite or potential rabies exposure incident table shows data based on the month incidents were reported, regardless of when the actual incident occurred. Therefore, numbers of incidents listed in the table will not correspond directly to those shown in the graphs.

Bacterial Infections

Campylobacteriosis

The WDH received 11 reports of Campylobacteriosis in April. No reports described illness in humans with exposure to animals or animal products. All 11 reports described illness in animals with potential human contact and/or pulse field gel electrophoresis (PFGE) patterns that match previous human and/or animal cases seen in Wyoming.

Table 1. Campylobacteriosis reports received by the WDH in April, 2011. Abbreviations include: not specified (n/s), pulse field gel electrophresis (PFGE).

County	Species affected	Disease organism	No. Reports	No. Animals affected	PFGE pattern matches
Big Horn	bovine	*Campylobacter jejuni*	1	1	previous human and bovine cases seen in WY since 2002
Fremont	bovine	*Campylobacter jejuni*	3	3	no additional information provided
	bovine	*Campylobacter jejuni*	1	1	previous human and bovine cases
Goshen	bovine	*Campylobacter jejuni*	1	1	previous human and bovine cases seen in WY since 2005
Johnson	bovine	*Campylobacter jejuni*	1	1	previous human and bovine cases seen in WY since 2002
Laramie	bovine	*Campylobacter jejuni*	1	1	no additional information provided
Sheridan	bovine	*Campylobacter jejuni*	1	1	no additional information provided
Uinta	bovine	*Campylobacter jejuni*	2	2	previous human and bovine cases seen in WY since 2002

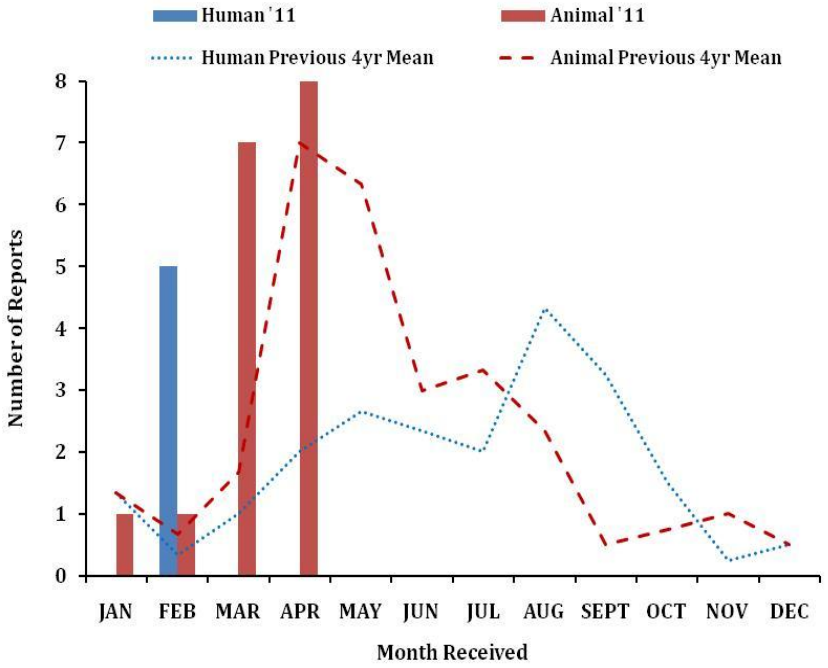


Figure 1. Total number of camploybacteriosis reports received by the WDH in 2011, and the average number of reports during the previous 4 years by category of report (human or animal) and month received.

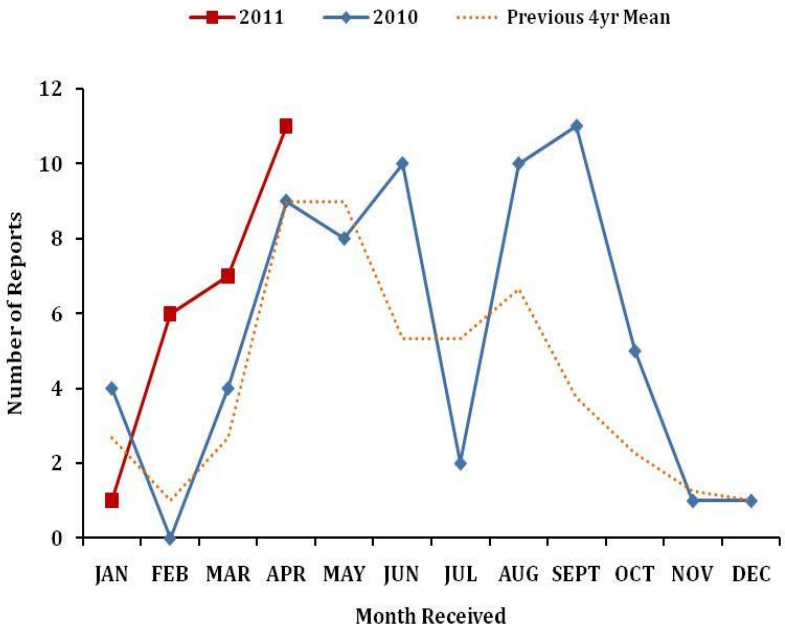


Figure 2. Total number of campylobacteriosis reports (human and animal combined) received by the WDH in 2011 and 2010, and the average number of reports during the previous four years by month received.

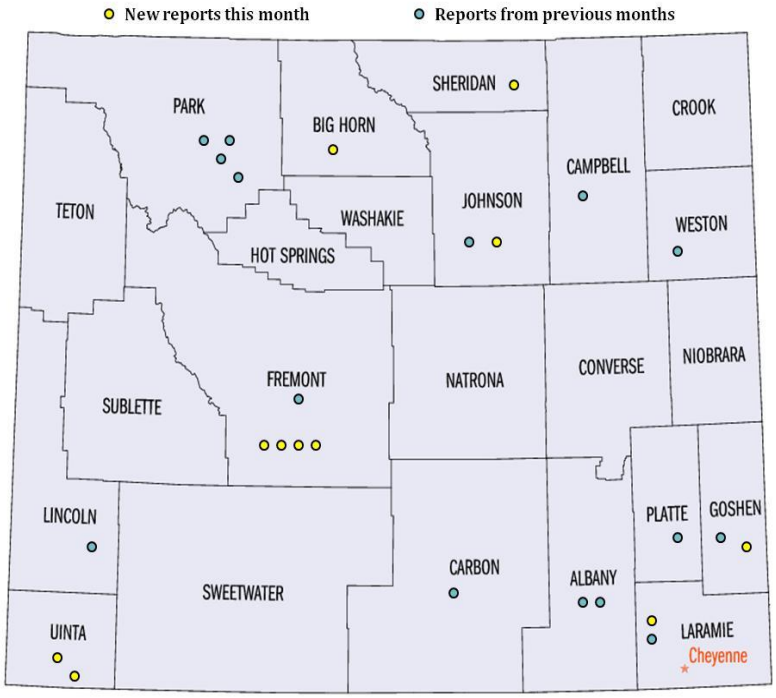


Figure 3. Geographic distribution of campylobacteriosis reports (human and animal combined) received by the WDH in 2011. One dot represents one report. Position of a dot is not representative of the exct location an event or observation occurred. A yellow dot indicates a new report received during the month of April, and a turqoise dot represents a report received in a previous month.

Escherichia coli infection

The WDH received one report of *E. coli* infection in April. This report described illness caused by non-O157 shiga toxin producing E. coli in a human with exposure to animals. This is the first report of *E. coli* infection in 2011.

Table 2. *E. coli* reports received by the WDH in April, 2011. Abbreviations include: number (no.), not specified (n/s), pulse field gel electrophresis (PFGE).

County	No. of Human Cases	Disease organism	Source of exposure (likely)	Comments
Laramie	1	*E. coli* non-O157 shiga toxin producing	various pets	no additional information provided

Salmonellosis

The WDH received five reports of Salmonellosis in April. One report described illness in a human with exposure to animals. Four reports described illness in an animal with PFGE patterns matching previous animal or human cases. Interestingly, the four bovine cases reported this month had PFGE patterns that matched each other.

Table 3. Salmonellosis reports received by the WDH in April, 2011. Abbreviations include: number (no.), not specified (n/s), pulse field gel electrophresis (PFGE).

	County	No. of Human Cases	No. of Animal Cases	Disease organism	Source of exposure (likely)	Comments
HUMAN CASES:						
	Carbon	1		species n/s	chicks, goats	no additional information provided
ANIMAL CASES:						
	Albany		2 bovine	*S. give*	n/s	PFGE patterns matched each other and the 2 cases in Carbon County
	Carbon		2 bovine	*S. give*	n/s	PFGE patterns matched each other and the 2 cases in Albany County

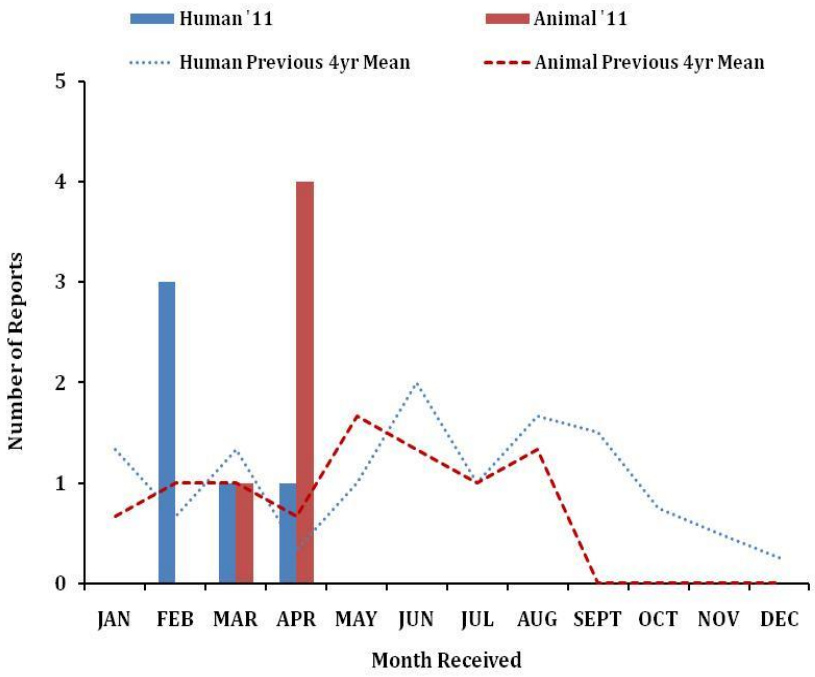


Figure 4. Total number of salmonellosis reports received by the WDH in 2011, and the average number of reports during the previous 4 years by category of report (human or animal) and month received.

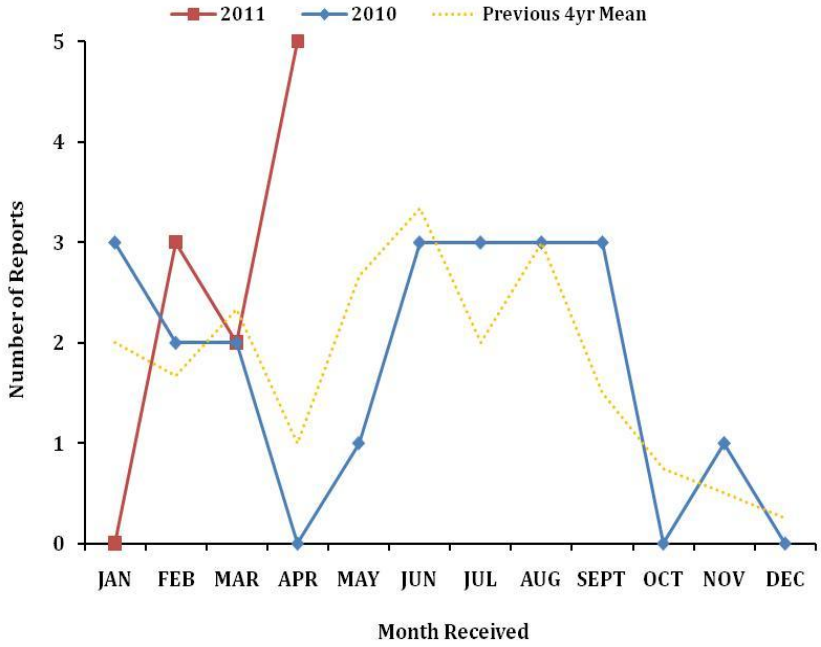


Figure 5. Total number of salmonellosis reports (human and animal combined) received by the WDH in 2011 and 2010, and the average number of reports during the previous four years by month received.

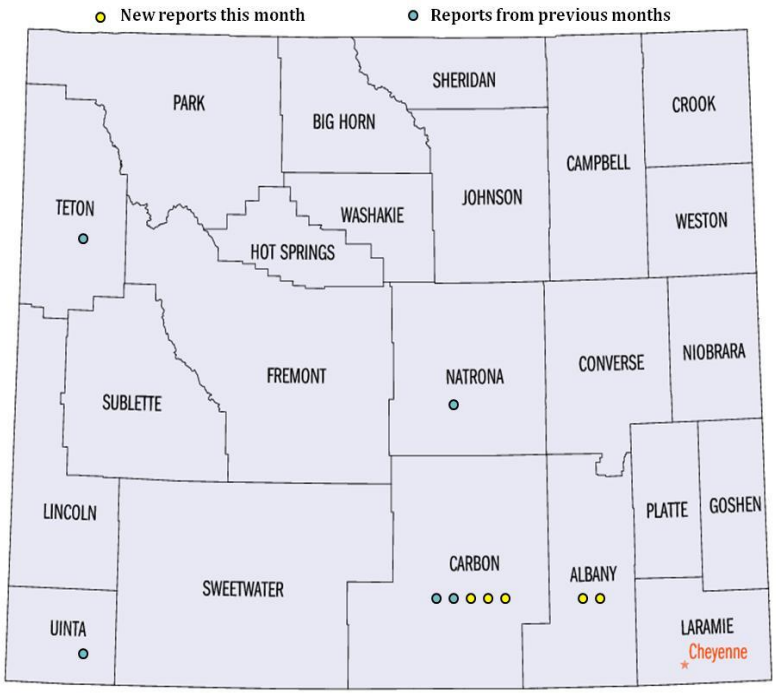


Figure 6. Geographic distribution of samonellosis reports (human and animal combined) received by the WDH in 2011. One dot represents one report. Position of a dot is not representative of the exct location an event or observation occurred. A yellow dot indicates a new report received during the month of April and a turqoise dot represents a report received in a previous month.

Parasite Infestations

Giardia

The WDH received three reports of giardia in April. All reports described illness in dogs with potential human contact.

Table 4. Giardiasis reports received by the WDH in April, 2011. Abbreviations include: number (no.) and not specified (n/s).

County	Species affected	No. animals affected	Source of exposure	Comments
Big Horn	canine	1	n/s	no additional information provided
Natrona	canine	4	n/s	puppies affected; relation among dogs n/s
	canine	1	n/s	puppy affected

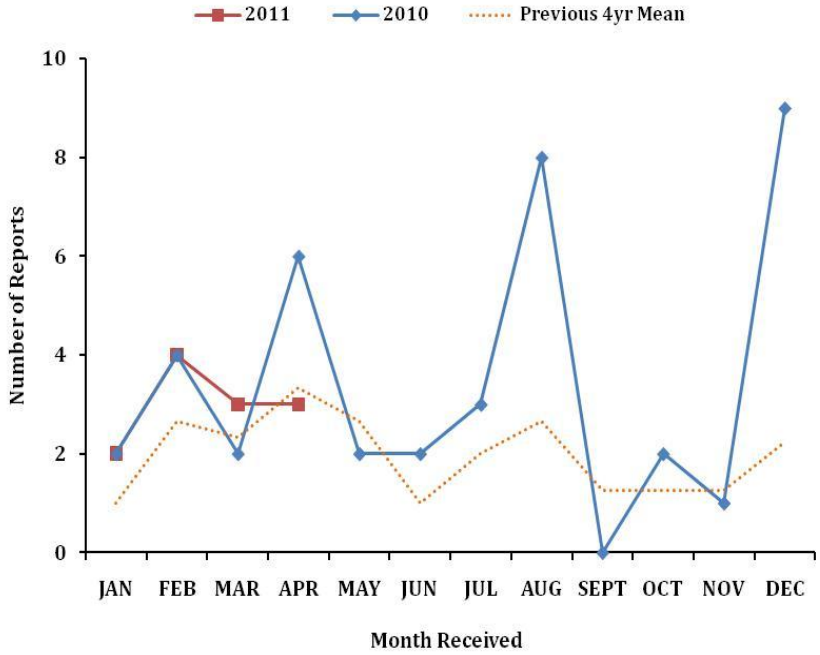


Figure 7. Total number of giardiasis reports (human and animal combined) received by the WDH in 2011 and 2010, and the average number of reports during the previous four years by month received.

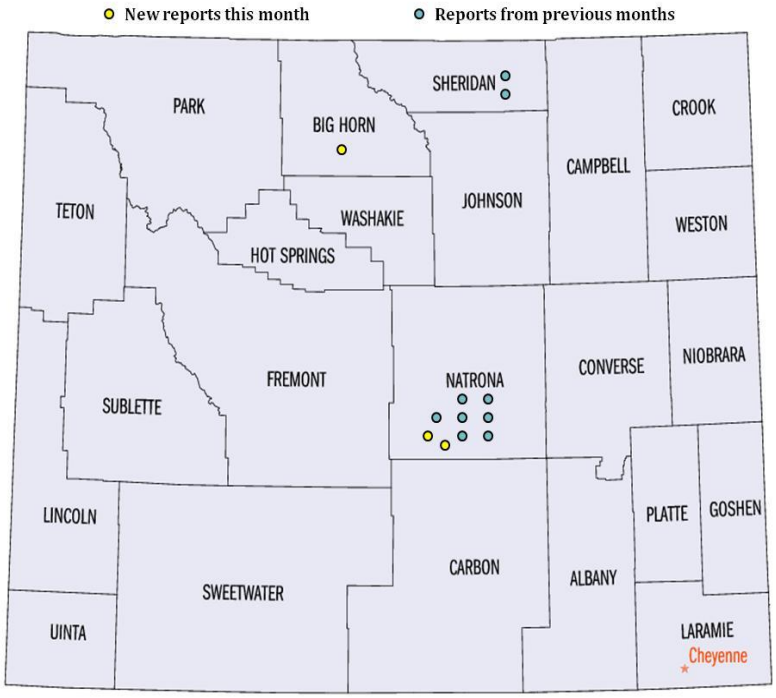


Figure 8. Geographic distribution of giardiasis reports (human and animal combined) received by the WDH in 2011. One dot represents one report. The relative position of a dot is not representative of the exct location an event or observation occurred. A yellow dot indicates a new report received during the month of April, and a turqoise dot represents a report received in a previous month.

Mange

The WDH received one report of mange in April. This report described illness in dogs with potential human contact. This is the fourth mange report received in 2011. Please note, mange caused by Demodex species of parasite is not generally considered a zoonotic disease.

Table 5. Mange reports received by the WDH in April, 2011. Abbreviations include: number (no.) and not specified (n/s).

County	Species affected	Disease organism	Number of animals affected	Comments
Fremont	canine	*Demodex sp.*	1	generally not considered zoonotic

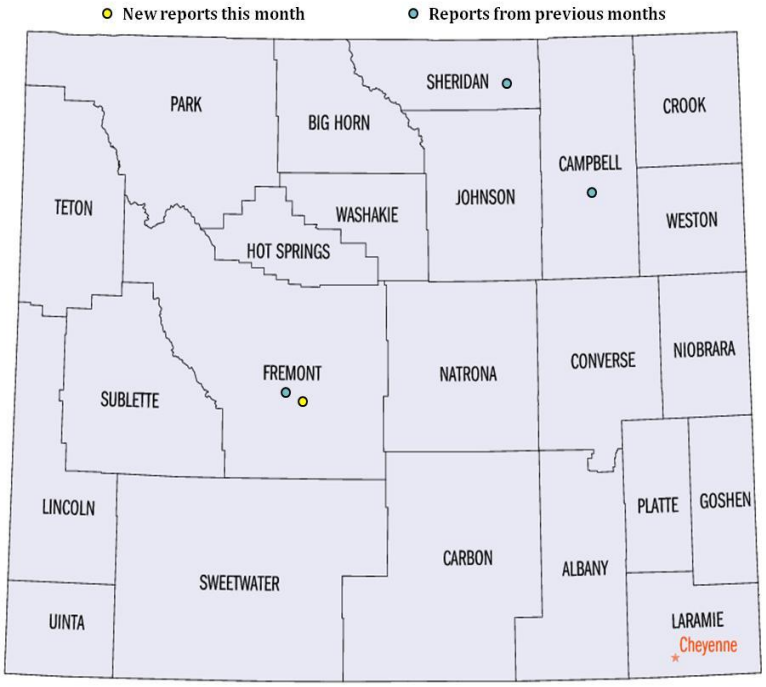


Figure 9. Geographic distribution of mange reports received by the WDH in 2011. One dot represents one report. The relative position of a dot is not representative of the exct location an event or observation occurred. A yellow dot indicates a new report received during the month of April, and a turqoise dot represents a report received in a previous month.

Parasitism (general)

The WDH received one report of general parasitism in April. This report described roundworms in a dog with potential human contact.

Table 6. Parasitism, specifically internal, reports received by the WDH in April, 2011. Abbrevieations include: number (No.) and not specified (n/s).

	County	Species affected	Parasite family	No. animals affected	Comments
	Sheridan	canine	roundworms	1	no additional information provided

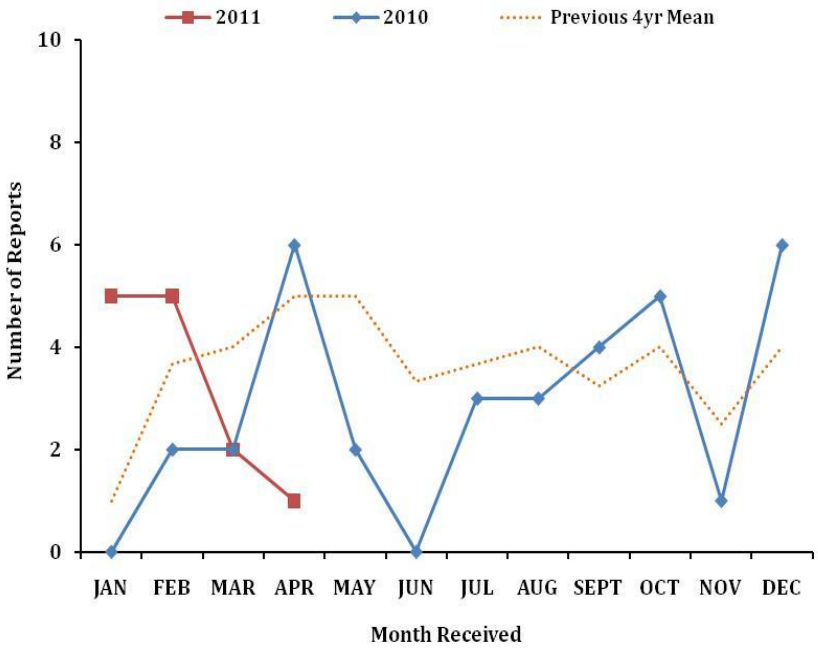


Figure 10. Total number of parasitism reports (human and animal combined) received by the WDH in 2011 and 2010, and the average number of reports during the previous four years by month received.

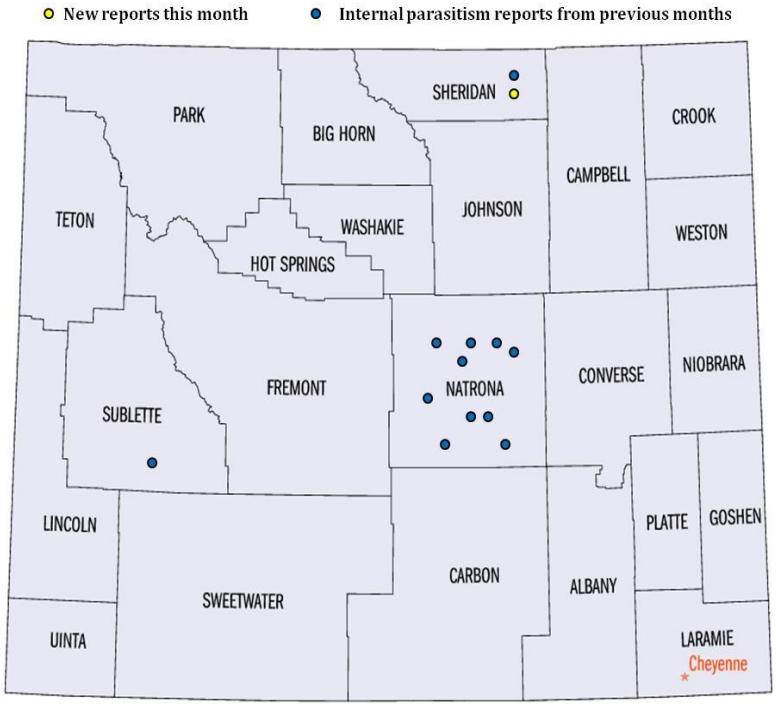


Figure 11. Geographic distribution of parasitism reports received by the WDH in 2011. One dot represents one report. The relative position of a dot is not representative of the exct location an event or observation occurred. A yellow dot indicates a new report received during the month of April, and a blue dot represents an internal parasitism report received in a previous month.

Viral Infections (non-vector-borne)

Contagious Ecthyma (Orf)

The WDH received one report of Contagious Ecthyma, also known as orf, in April 2011. This report described illness in sheep with potential human contact. This is the first report of Orf in 2011.

Table 7. Contagious ecthyma reports received by the WDH in April 2011. Abbreviations include: number (No.), not specified (n/s).

County	No. of reports	Species affected	Source of exposure	Comments
Fremont	1	ovine	n/s	number of and relation among affected sheep n/s

Rabies and Animal Bites

Animal-to-human bite or potential rabies exposure incidents

The WDH received 59 reports of animal-to-human bite or potential rabies exposure incidents in April. Of these 59 reports, 31 actually occurred in March, the rest took place in April. Please be aware the number and percentage of incidents shown in the table below are based on the number of reports received during the month of April, and do not necessarily represent the actual date of the incident. Therefore, numbers, and calculated values can vary drastically between monthly reports and the year end summary, and do not directly correspond to the graphs shown below.

Table 8. Animal-to-human bite or potential rabies exposure incidents reported to the WDH in April, 2011. Abbreviations include: not specified (n/s), years old (yo), rabies post-exposure prophylaxis (PEP), lost to follow-up (LTF), and unknown disposition (UNK). Please note that the number of incidents does not necessarily reflect the true number of humans bitten. For the victim age categories, children are age 0-17, adults are age 18-100.

Animal species	No. of incidents	Counties reporting (# incidents, if >1)	Victim age categories	Victim genders	PEP administered?	Animal disposition (# incidents, if >1)
canine	51	Albany (6), Big Horn, Campbell (5), Fremont, Johnson, Laramie (12), Lincoln (2), Natrona (12), Park (2), Sweetwater (6), Uinta (3)	61% adults, 27% children, 12% unknown	47% female, 41% male, 12% unknown	Yes, 2 cases	LTF (2), euthanized/died (4), quarantined (37), UNK (8)
feline	8	Converse (2), Laramie, Natrona (3), Park, Sweetwater	88% adults, 12% unknown	63% female, 37% male	Yes, 1 case	LTF, quarantined (5), UNK (2)

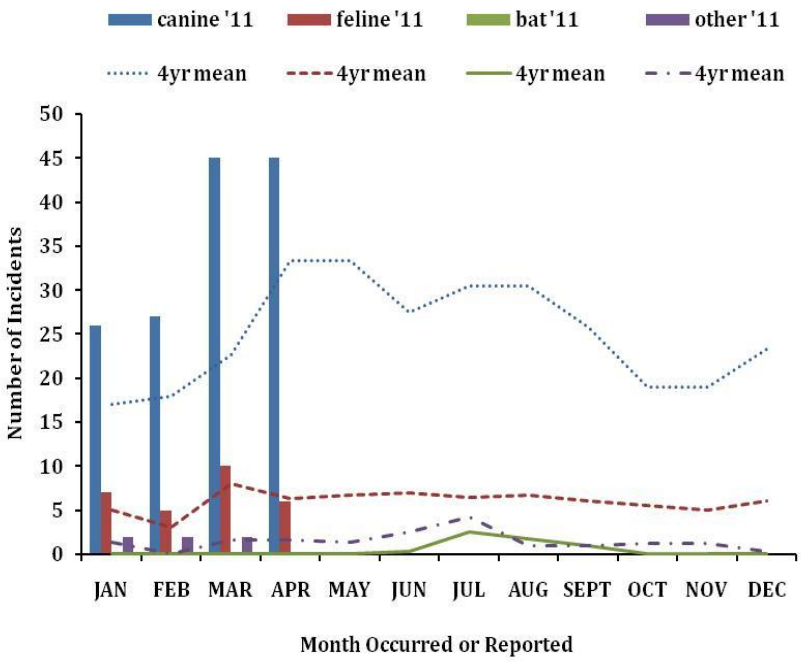


Figure 12. Total number of animal-to-human bite or potential rabies exposure incidents reported to the WDH in 2011 and the average number of reports received over the previous four years by specis of implicated animal, and by month the incident actually occurred or was reported (if no event date was provided).

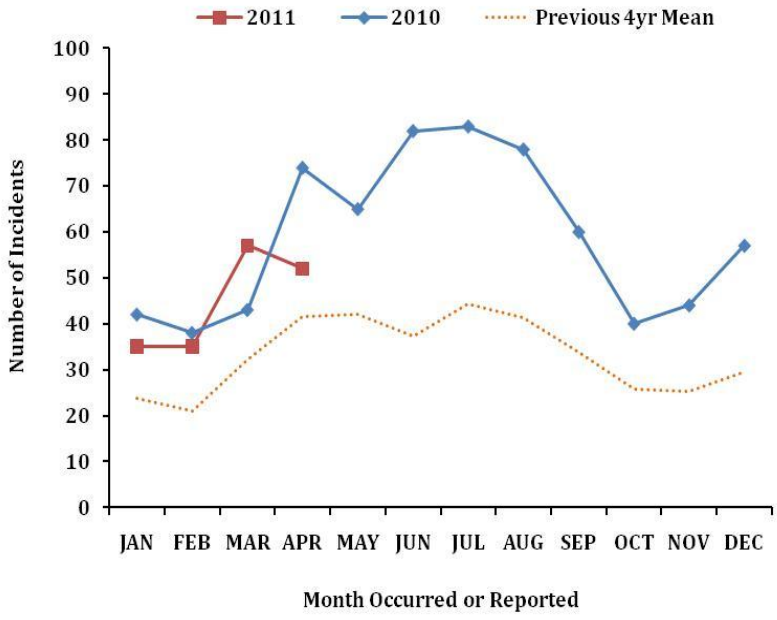


Figure 13. Total number of animal-to-human bite or potential rabies exposure incidents reported to the WDH in 2011 and 2010, and the average number of reports received over the previous 4 years by month the incident actually occurred or was reported (if no event date was provided).

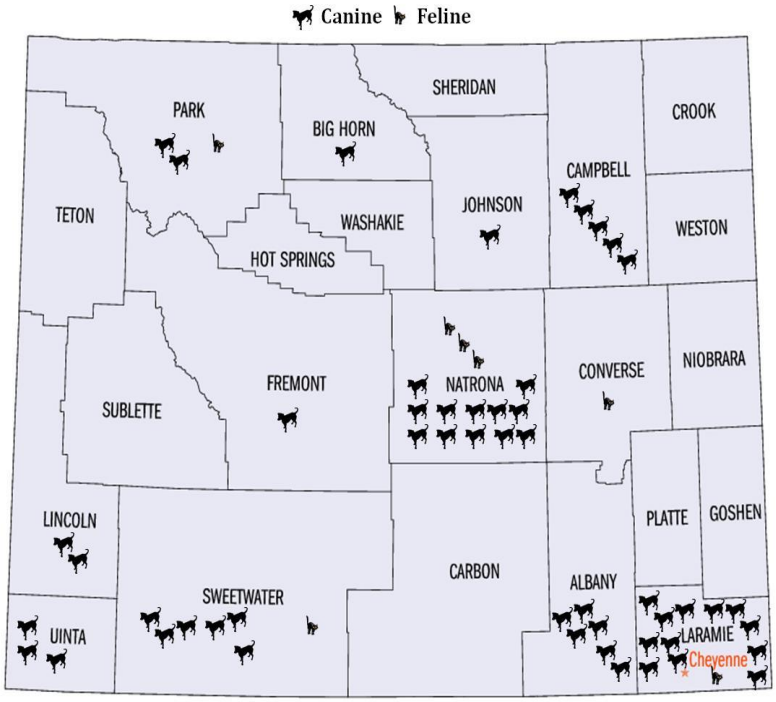


Figure 14. Geographic distribution of animal-to-human bite or potential rabies exposure incidents reported to the WDH in April 2011. One animal picture represents one incident involving the species depicted. The relative position of an animal picture is not representative of the exact location the incident occured.

Rabies Positive Animals

No reports of rabies positive animals were received by the WDH in April. A total of 26 animals from Wyoming were tested at the Wyoming State Veterinary Laboratory (WSVL) this month. All data shown below is courtesy of the WSVL. In the table below, the "other" animal tested from Campbell County was a pig.

Table 9. Total number of each species tested and the percent that tested positive for Rabies (in parentheses) by the WSVL in April 2011. The column titled "Other" includes animals like deer, bear, pigs, etc.

County	Bovine	Canine	Feline	Raccoon	Skunk	Other
Albany		1 (0%)			1 (0%)	
Big Horn					2 (0%)	
Campbell		1 (0%)				1 (0%)
Carbon						
Converse		1 (0%)	1 (0%)			
Crook						
Fremont						
Goshen						
Hot Springs						
Johnson				1 (0%)	5 (0%)	
Laramie						
Lincoln						
Natrona			1 (0%)			
Niobrara						
Park					8 (0%)	
Platte						
Sheridan			1 (0%)			
Sublette						
Sweetwater						
Teton						
Uinta						
Washakie	1 (0%)		1 (0%)			
Weston						
Total in **APR**	1 (0%)	3 (0%)	4 (0%)	1 (0%)	16 (0%)	1 (0%)
Cum. Tot. 2011	5 (0%)	33 (0%)	15(0%)	2 (0%)	28 (4%)	4 (0%)

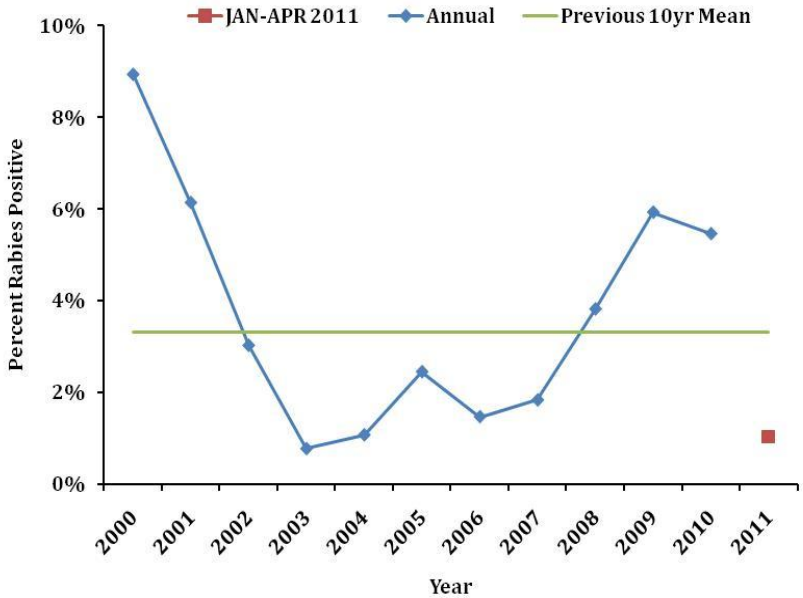


Figure 15. Annual and cumulative for January through April 2011 percent of animals tested at the WSVL that were positive for rabies by year, and the average percent rabies positive over the previous 10 years.

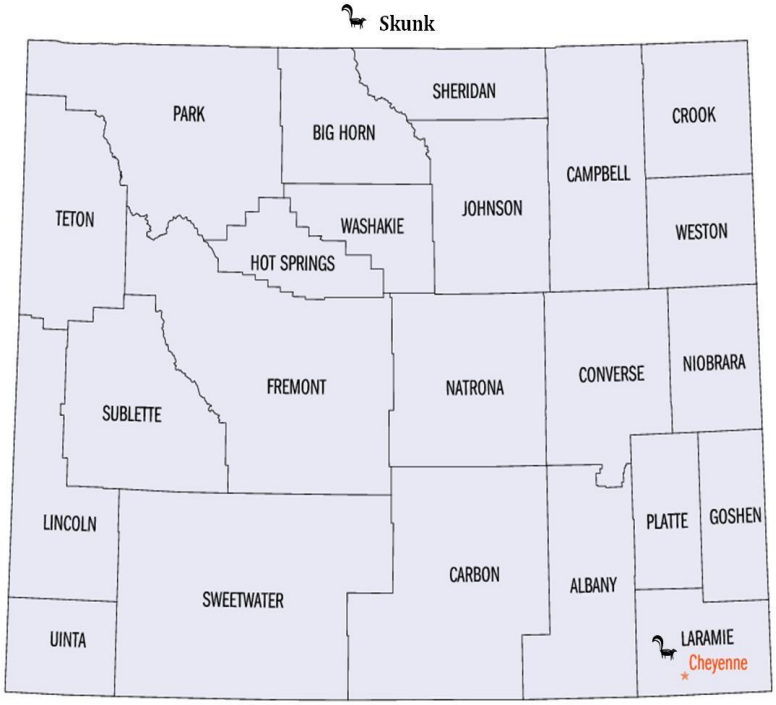


Figure 16. Geographic distribution of rabies positive animals reported to the WDH in 2011. One animal picture represents one rabies positive animal of the species depicted. The relative position of an animal picture is not representative of the exact location the animal was found.

Conditions Initially of Unknown Etiology

Conditions of unknown etiology

The WDH received three reports of a condition of unknown etiology in April. All reports described a illness in animals with potential human contact.

Table 10. Reports of conditions of unknown etiology received by the WDH in April, 2011. Abbreviations included: not determined (n/d), not specified (n/s).

County	Disease suspected	Disease confirmed	Species affected	Number of animals	Symptoms
Big Horn	Unknown	n/d	porcine	n/s	unusually large number stillborn pigs on three different farms
Sublette	Unknown	n/d	bovine	numerous	diarrhea in calves
Uinta	Unknown	n/d	bovine	n/s	may be due to weather related stress

Outbreaks, Clusters and Notable Cases

Botulism

In early April, a veterinarian from Lincoln County reported a canine diagnosed with severe botulism; a disease caused by injestion of toxins produced by *Clostridium botulinum* bacteria. The dog had a history of scavenging rotten hay, chicken droppies, and carrion. The dog was given supportive therapy and survived. To our knowledge, no human illness was associated with the ill dog. Cases of botulism in any species are important to note because *C. botulinum* toxin is one of six priority A bioterrorism (BT) agents as described by the U.S. Offices of Health and Human Services and Homeland Security. The other five agents include: anthrax, plague, tularemia, smallpox, and viral hemorrrhagic fevers.

Ehrlichiosis

During the month of April, the WDH received a report of Ehrlichiosis in a canine from a veterinarian in Fremont County. This report described illness in a dog with a history of travel outside Wyoming and contact with humans.

Plague

In the end of April a veterinarian from Hot Springs County reported a high suspicion of plague in a dog with a recent history of carrying a fox skeleton home. The dog did not have classic symptoms of infection with *Yersinia pestis*, however the veterinarian did request laboratory testing. The dog was found negative for plague but the final diagnosis was not provided to the WDH. An adult female was exposed to the dog and came down with a flu-like illness. She was provided with a perscription for the antibiotic doxycycline prophylactically.

Public Health Actions

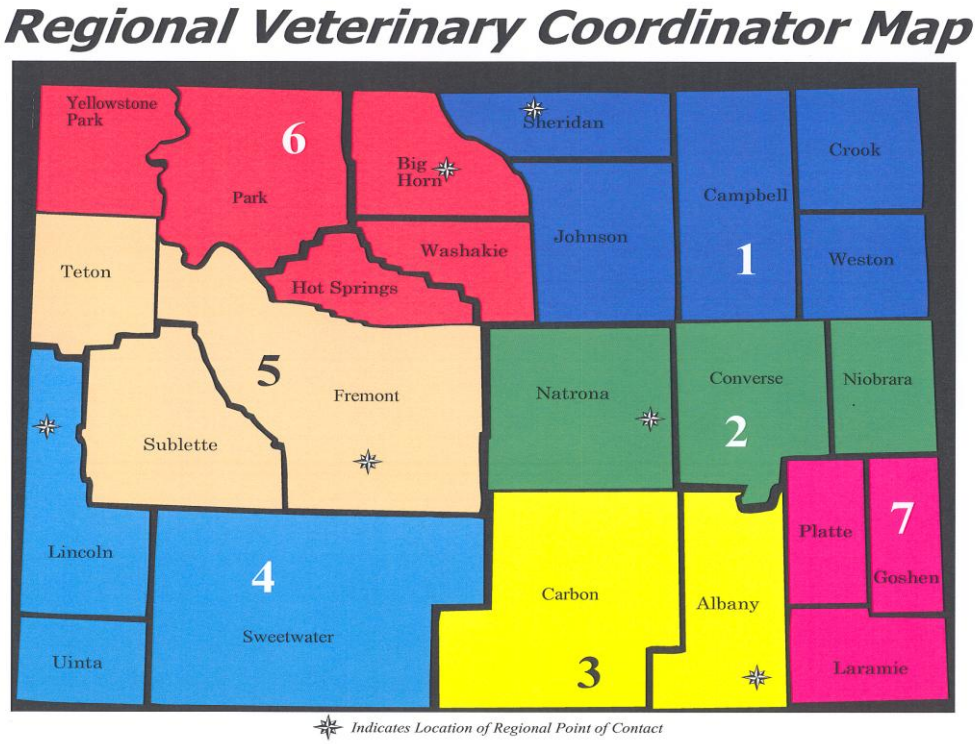
No significant public health actions were taken during the month of April.

Reporting Entities

An average of 37 entities reported information to their respective Wyoming Regional Veterinary Public Health Coordinators (WRVPHC) or directly to the WDH in April. Reports of zoonoses or other important adverse health events were received from all seven regions. Reporting entities often include: animal control officers, animal shelters, city police departments, county sheriff's offices, county public health nursing offices, healthcare providers, citizens, veterinarians, individual WRVPHC's, the Nebraska Regional Poison Control Center, the Wyoming Public Health Laboratory, and the Wyoming State Veterinary Laboratory.

Appendix A: Regional Veterinary Public Health Coordinator Information

A spatial representation of the seven regions in Wyoming covered by the Wyoming Regional Veterinary Public Health Coordinator Program.



Contact information for each of the WRVPHCs and their corresponding region.

Region	Counties	Name	Address	Phone	Email
1	Campbell, Crook, Johnson, Sheridan, Weston	Mathew Cherni, DVM	PO Box 996, Ranchester, WY, 82839	307-655-9395; 307-751-7882(c)	mjcdvm@gmail.com
2	Converse, Natrona, Niobrara	Richard Schwahn, DVM	751 West 58th St., Casper, WY, 82601	307-234-7333; 307-259-4083(c)	drschwahn@hotmail.com
3	Albany, Carbon	David Evertson, DVM	610 Skyline Rd., Laramie, WY, 82070	307-745-7431	davidevertson@aol.com
4	Lincoln, Sweetwater, Uinta	Paul Jensen, DVM	253 Southbrook Dr., PO Box 301, Thayne, WY, 83127	307-883-0993; 307-654-1651(c); 307-389-3469(c)	Dr3pin@silverstar.com
5	Fremont, Sublette, Teton	James Summers, DVM	50 Dutch Ed Ln., Lander, WY, 82520	307-332-2228; 307-349-2012(c); 307-349-1226(c)	jimsummers@wyoming.com
6	Big Horn, Hot Springs, Park, Washakie, YNP	Timothy Graham, DVM	907 S. 9th St., Basin, WY, 82410	307-568-2967; 307-272-5097(c); 307-272-9488(c)	tjgraham@tctwest.net
7	Goshen, Laramie, Platte	Gary Norwood, DVM	501 E. Riding Club Rd., Cheyenne, WY, 82009	307-634-7255; 307-631-7242(c)	fvcdvm@aol.com